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DEPARTMENT OF NATURAL RESOURCES

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August 18, 2008

Barclay Cuthbert
Earth Energy Resources
Suite 740, 404-6 Avenue S. W.
Calgary, Alberta, Canada T2P 0R9

Subject: Second Review of Notice of Intention to Commence Large Mining Operations, Earth Energy Resources, PR Springs Mine, M0470090, Task 2386, Uintah County, Utah

Dear Mr. Cuthbert:

The Division has completed a review of your Notice of Intention to Commence Large Mining Operations for the PR Springs Mine, located in Uintah County, Utah, which was received May 9, 2008. The attached comments will need to be addressed before tentative approval may be granted.

The comments are listed under the applicable Minerals Rule heading; please format your response in a similar fashion. Please address only those items requested in the attached technical review by sending replacement pages of the original mining notice using **redline and strikeout** text, so we can see what changes have been made. After the notice is determined technically complete and we are prepared to issue final approval, we will ask that you send us two clean copies of the complete and corrected plan. Upon final approval of the permit, we will return one copy stamped "approved" for your records.

The Division will suspend further review of the Notice of Intention until your response to this letter is received. If you have any questions in this regard please contact me at 801-538-5320 or Leslie Heppler at 801-538-5257. Thank you for your cooperation in completing this permitting action.

Sincerely,

Dana Dean P.E.
Associate Director -Mining

DD:lah:eb
Task # 2386
Attachment: Review
cc: Will Stokes, SITLA
P:\GROUPS\MINERALS\WP\M047-Uintah\M0470090-PRSpringMine\final\Second review_M0470090.doc



REVIEW OF NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

Earth Energy Resources

PR Springs Mine

M0470090

August 18, 2008

General Comments:

Comment #	Sheet/Page #	Comments	Review Action
1	General	Based on the content of the submittal, it appears there may be expansions that will require revisions to the permit in time. Because of the change dynamics, the submittal should be formatted to easily incorporate into future revisions or amendments. Further discussion with the Division is suggested. (BE)	
2	General	It has been noted in the submittal that there maybe additional resource reserves, yet the plan dose not indicate how an expansion would be incorporated into the plan. Ie something would have to be rehandled, processing plant, the moving of a dump etc. (lah)	

R647-4-104 – Operator's, Surface and Mineral Ownership

Comment #	Sheet/Page #	Comments	Review Action
3	General	Once the conditional use permit from Grand County is granted, please include this as an appendix to the plan. (BE) Provide Appendix number and a place holder for the permit to be inserted (lah)	

R647-4-105 - Maps, Drawings & Photographs

General Map Comments

Comment #	Sheet/Page #	Comments	Review Action
4	General	There is no shown and labeled public access route from nearest highway. (BE)	

Specific Map Comments

Comment #	Sheet/Page #	Comments	Review Action
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Comment #	Sheet/Page #	Comments	Review Action
5	General	The below review comments are specific to the identified maps. The items will require clarification and updates, improvements, or corrections. These should be made to each of the maps accordingly. Do not assume this information is all-inclusive as other changes may result once clarity is established. (BE & lah)	
6	Figure 2	Label permit area, include pipeline disturbance, include acres to match Bonded acres (lah)	
7	Figure 2	The word proposed mine operations shows several colors of hatching, however none of them are identified using a key. There is no indication of what they mean. Please correct. (BE)	
8	Figure 2a	Include either plan view of feature or more description of where feature will be used. Nothing has been included catch basins, sediment ponds, etc (lah)	
9	Figure 2a	Overburden should be keyed into natural slope for stability FOS (lah)	
10	Figure 2b	Include either plan view of feature or more description of where feature will be used. Where will a unlined ditch be used as opposed to a rip rap lined ditch, where will the berm be used in the plan (lah)	
11	Figure 3	Define 203 acres listed in text and in bonded area. (lah)	
12	Figure 3	Label figure 3 - features to be tied to surety bond (lah)	
13	Figure 3	The facilities map should include the dimensions of the buildings, ponds, piles etc. These dimensions can be part of the legend and referenced appropriately. The map should show roads, including access and haul roads; utilities and power lines (water, gas, power, telecommunications etc); and drainage control devices. (BE) Maximum size of the facilities are needed for bonding calculation purposes. (lah)	
14	Figure 4a,4b,4c,6	FYI only, best if drawn with no vertical exaggeration, best if all x-sections are the same scale, engineering standards for drawing are lacking (lah)	
15	Figure 4a,4b,4c	Slope angles shown on section are incorrect. (lah)	
16	Figure 5	As per 105.3.16 A geology map is required, include Geomechanical data; include orientation of bedding and structural features include faults, and joint sets orientations to demonstrate pit wall stability . (lah)	
17	Figure 5-d	There may be related issues within the other figures and more information may be required. (BE)	
18	Figure 5-d	Is this figure to remain in the plan? Why is it labeled proprietary & confidential? (lah)	
19	Figure 9	Good regrading plan. Better scale and more detail needed (match to surety bond) needed (lah)	
20	General	As per 105.3.16 A geology map is required, include Geomechanical data; include orientation of bedding and structural features include faults, and joint sets orientations to demonstrate pit wall stability. (lah)	
21	General	A map should be submitted that shows adjacent land owners, including access road from the nearest public state road. (BE) As per 105.3.18 County road is not labeled on Figure 1 as written in text page 10 para 5 (lah)	

R647-4-106 - Operation Plan

106.2 Type of operations conducted, mining method, processing etc.

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Comment #	Sheet/Page #	Comments	Review Action
22	Page 11 para 4	FYI - Caterpillar performance handbook provides ripper performance chart for dozers based on Seismic Shear Wave Velocities. (lah)	
23	Page 11 para 4	Safety items regarding blasting such as closure distances and times should not be committed to in the Mine permit., as loading specifics are not known. Give minimums or maximum as each apply. (lah)	
24	Omission	Include posting of sign with Blasting schedules on public roads. (lah)	
25	Page 11 para 4	"Blasting is not expected...." As per Public Safety R647-4-109 4. NO FLY WILL BE TOLERATED ON PUBLIC ROADS (lah)	
26	Page 12 Para 3	Why is the processing procedure listed under equipment? (lah)	
27	Page 13 Para 1	Slope stability and Blasting are related, perhaps info should adjacent in text. (lah)	
28	Page 13 Para 1	Controlled Blasting is not normally done on slopes of 2H:1V (lah)	
29	Page 14 Para 4	Show locations of water retention/storage ponds on a map.(lah)	
30	Page 15 Para 5 & 6	It is unclear if slope stability will have an adequate Factor of Safety in the unconsolidated waste dumps with the increased pore water pressures proposed. (lah)	
31	Page 16 Para 6	Most ground water wells have a minimum of 4" of gravel pack around the OD of the well screen. (lah)	
32	Page 17 Para 2	Is there any monitoring or gages planned for the pipeline to monitor for leaks? (lah)	
33	Page 17 Para 5	Has there been any triaxial shear tests run on "discharge sands" to determine cohesion and phi angle? (lah)	
34	Page 17, 18 General	General Engineering parameters should be defined, such as FOS's used (lah)	
35	Page 18 Para 5	Reference drawing detail for runoff detail. (lah)	
36	Page 19 General	Maximum slope angles have been noted for waste piles but nothing noted for pit slope angles (lah)	

106.6 Plan for protecting & redepositing soils

Comment #	Sheet/Page #	Comments	Review Action
37	Page 23	The plan says on page 23 that soil will not be salvaged from the water well pad or the pipeline corridor because these areas are within previously disturbed corridors. Please explain further. What type of disturbance or corridors are in this area? (PBB)	

106.8 Depth to groundwater, extent of overburden, geology

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Comment #	Sheet/Page #	Comments	Review Action
38	Page 28 omission	No geologic setting is provided for ephemeral spring noted on page 29 para 4 (lah)	
39	Page 28 Para 2	"Geologic Setting" is NOT the correct title for the paragraph (lah)	
40	Page 28 para 3	Add strike and dip, and fault to Figure 5 (lah)	

106.9 Location & size of ore, waste, tailings, ponds

Comment #	Sheet/Page #	Comments	Review Action
41	General	The Division appreciates the efforts of obtaining information to follow DWQ guidelines for minimize impact of ore and waste stockpiles on groundwater. Specific design information and control measures should be provided in the plan. (BE)	
42	Page 29 Para 2	Note "waste sand would be nearly dry"..page 17 notes discharged sand to contain 10 to 20 percent water (lah)	
43	Page 29 Para 3	Provide phase maps to show the backfilling of the pit sequence (lah)	
44	Page 29 Para 4	Provide drawing for avoiding ephemeral spring (lah)	
45	Page 30 Para 4	Note steel pipeline, elsewhere HDPE is noted (page 17 para 1) (lah)	
46	Page 30 Para 2	Provide drawing for storage pond, include location and design standards (lah)	

106.10 Amount of material to be moved

R647-4-107 - Operation Practices

Comment #	Sheet/Page #	Comments	Review Action
47	General	The plan states that there will not be a problem with drainage, and page 20 says, 'Surface water resources will be protected during operations as described above in Section 107.' There is no section 107 in the plan. The Division requires that the BMPs to be used on site be described in the plan and a typical drawing submitted of how the BMP will be installed and a figure showing where on the ground it will be implemented referencing the BMP. Temporary BMPs are not recommended for long term operations as they are not always maintained. The Division recommends the use of berms to direct runoff to small catch basins that can be cleaned out after storm events, since the maintenance of these controls is more predicable. Provide this additional information. This ensures the proposed controls will be effective and there will not be any problems with offsite drainage. (TM & lah)	

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R647-4-108- Hole Plugging Requirements

Comment #	Sheet/Page #	Comments	Review Action
48	Page 31 Para 2	The plan states SITLA?...it was my understanding the well will be on BLM land and also noted on page of this report and shown on Figure 1. (lah)	

R647-4-109 - Impact Assessment

109.1 Impacts to surface & groundwater systems

Comment #	Sheet/Page #	Comments	Review Action
49	Page 34 Para 2	The plan does reference any sort of sediment control other than BMPs included in the SWPPP plan by reference. The SWPP needs to be included in the plan when approved. Since the term BMPs references a large variety of sediment control devices, the Division requires that the operator specify what specific BMP controls are going to be used and a typical design drawing included in the plan. There is no reference to any sediment controls such as sediment ponds, etc. The plan says the mine is on flat ground in the headwaters of main canyon, inferring there is no runoff. The pits are likely to catch a major amount of drainage from rain and snow, and this water needs to be factored into the site plan. Therefore, a plan must be provided on how this runoff water will be handled operationally both in the pits and running off waste piles. Please include these plans and designs in the mine plan. (TM) Provide drawing with hydrology detail. As you have noted on page 34, "the SWPPP will be added" Provide a place holder for the permit to be inserted (lah)	

109.4 Slope stability, erosion control, air quality (fugitive dust control plan), safety

Comment #	Sheet/Page #	Comments From Initial Review	Review Action
50	Page 46 Para 1	The plan says Earth Energy is in the process of obtaining an Approval Order from the Division of Air Quality. Please include a copy of this Approval Order in the plan once it has been issued. (PBB) Provide Appendix number and a place holder for the permit to be inserted (lah)	
51	Page 42 Para 1	Will the valley fill dumps be keyed into the slopes? (lah)	
52	Page 46 all	See comments listed above regarding public safety (lah)	
53	Page 46 Bullet 9	Fly rock is bad blasting...the proper blast design has no fly rock, the use of adequate stemming is the solution. (lah)	

R647-4-110 - Reclamation Plan

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110.1 Current & post mining land use

Comment #	Sheet/Page #	Comments From Initial Review	Review Action
54	General	Exploration cannot be a post mining land use. Closure plans should be dependent on the area being used as open space/habitat. (BE & lah)	

110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed

Comment #	Sheet/Page #	Comments From Initial Review	Review Action
55	Page 50 Para 2	"pits (approx 92 acres....)" It is unclear which part of the 92 acres will be back filled, please, submit phasing as plan view diagrams. (lah)	

110.3 Description of facilities to be left (post mining use)

Comment #	Sheet/Page #	Comments From Initial Review	Review Action
56	Page 51 Para 6	As stated water well is to revert to SITLA. Well is located on BLM land and other documentation refer to reverting to BLM. Please clarify (lah)	

110.5 Revegetation planting program

Comment #	Sheet/Page #	Comments From Initial Review	Review Action
57	Page 52 Para 3	It is unclear why pipeline construction is "except" from redistribution of topsoil. (PB & lah)	

R647-4-111 - Reclamation Practices

Comment #	Sheet/Page #	Comments From Initial Review	Review Action
58	General	The plan says on page 36 that no significant drainages will be disturbed so none will be reconstructed. The plan needs to address landform and final drainage on waste dump faces. Please show how waste pile outslopes and reclaimed pit slopes will be stabilized, water directed off the slope, erosion controlled, and how sediment will be kept from leaving the site. (TM) According to Plan, the dumps will contain a significant amount of fine grained material, not just waste overburden, address how fine grained sediments will be kept from leaving the site...siltation basins ?, sediment ponds (lah)	

R647-4-113 - Surety

Reclamation:

Comment #	Sheet/Page #	Comments From Initial Review	Review Action
60	General	This review cannot capture every omission and make a statement accordingly. It is anticipated that communications will occur in the interim and the dialog will provide elaboration on the generalities made within the scope of this review. (BE)	
61	General	On the sub sections within each category on the cost estimation, please include the dollar amount. (BE)	
62	-	Category 1. The spread sheet dollar amount of \$210,627 is different than the category one summary amount of \$263,427. (BE)	
63	Page 50	Page 50 of the draft indicates that some of the demolition activities will require burial. Have these costs been accounted for? If so, an explanation of that should be provided in the spread sheet or within a surety summary narrative. (BE)	
64	Page 50 Para 5	Page 50 the new text uses the word proposed. Please remove the use of the word and write the narrative as though the Division has approved. (BE)	
65	Page 50 Para 5	The first sentence of the Facilities and Materials paragraph requires some clarification and requires specific action outline. When reading it lends the impression that either burial or dismantling will occur. In reality dismantling will occur with the exception of the mentioned burial work. (BE)	
66	-	Although the surety spreadsheet identifies the equipment used in category one reclamation. It is extremely helpful to provide the equipment within the reclamation narrative as well. (BE)	
67	Page 51 Para 1	Page 51, the process train indicates process materials will be drained. Please elaborate on where the drainage will occur, and explain if the process materials are hazardous and/or are an impact to public health and safety. (BE)	
68	General	There is indication that there are two process trains. It appears there are reclamation costs for only one. Page 2 of the summary surety draft does not show costs for two process trains. Please correct and/or explain. (BE)	
69	General	Please provide the weight of one cubic yard of cut up process train. (BE)	
70	Page 49 Para 1	Page 49, reclamation activities will involve the Division. Surety release will not occur until the Division approves the reclamation work, which typically requires 'visual inspections'. It may be helpful to include narrative that indicates the reclamation activity obligations under the Act and rules. (BE)	
71	Page 49 Para 2	Page 49, during interim and on going reclamation, a commitment should be made that indicates that maps will be submitted to the Division showing 'active roads' or a reference that the roads shown on the reclamation activities map are active during the early reclamation phases. (BE)	
72	General	What are the road dimensions? (BE)	
73	General	What is the water source for the water truck? (BE)	
74	Page 49 Para 5	Page 49, correction is required, there is a comment that indicates that a variance is required for slopes exceeding 45°. That 45° rule is for highwall remediation. By rule, slopes are to be regraded to a stable configuration, and sloped to minimize safety hazards and erosion while promoting successful revegetation. Please remove/re-write the comment. (BE)	
75	Page 49 Para 5	Spelling comment: regarding should be 'regrading', page 49. (BE)	

Comment #	Sheet/Page #	Comments From Initial Review	Review Action
76	General	What is the remaining height of the pits once sand mix has been placed? (BE)	
77	Page 50 Para 3	Page 50, for clarity and to eliminate oversight, please relocate the comment under the title "DRILL HOLES", 2nd paragraph about the 'impounding pit'. (BE)	
78	General	If on site burial of facility components occurs, a solid waste permit may be required. Please make a statement to that affect. (BE)	
79	-	Page 1/Surety Estimation under items to be removed, the mine office building is not included. Although ATCO removes it, please include it in the table and make that statement there as well. (BE)	
80	General	For clarification purposes, does ATCO remove the mine office building without any prep work by operator? Does the mine office building have contents that must be removed? It is assumed gutting is required for this building and others. However, there is no cost. Please explain or include gutting costs.(BE)	
81	General	The 'rates and seed mix' sheet shows that labor hourly rates are on pg 629 of the 2008 Means Heavy Construction Cost Data book. That page is an overview of 'new titles'. Please correct and reference the right pages from the book. (BE)	
82	General	Clarification is required on the bond estimate summary for the following statements: Laborers, assumes 4/laborers per crane hour. If there is a total of 8 crane hours for removal of the water storage pond liner, then a multiplier (number of laborers/crane hour) is missing and should be included before multiplying by the dollars/hour. (BE)	
83	General	Please place the cost (hourly/weekly rate) of the crane on the equipment costs table. (BE)	
84	General	Page 1/6 of the bond summary worksheet shows a crane being used for the removal of several items, however the hourly equipment cost associated with the water storage pond liner is \$55.82. The item to be removed description specifically states that a crane will be used. Please clarify/correct. (BE)	
85	General	Please check subtotal columns, especially the first one in each sub category. There appears to be consistent errors. Example, tanks (22): $49 \times 47.05 = 2305.45$, the cell shows 2290.00. There are more of these errors, please review and correct. (BE)	
86	General	What is the basis for the crane hours/laborer hours relationship? (BE)	
87	General	Page 2 of the bond estimate summary, please use standard the cost reference number format: NOT: 31 23.23.18 4700 but 31 23-23.18-4700. (BE)	
88	General	Page 2 of the bond estimate summary, Please reference the \$/mile cost of \$2.04 (BE)	
89	General	Page 2, bond estimate summary, there is a dedicated water truck, but no costs. Please correct. (BE)	
90	-	Page 2 of bond estimate summary, ripping of concrete foundation in less than an hour is inaccurate. What is the concrete thickness? Is the concrete reinforced? Area is typically square feet and not acres for concrete ripping/burying. (BE)	
91	-	Why is there just the equipment operator for concrete ripping? No laborers? No additional equipment? Please reevaluate these costs. (BE)	
92	-	Page 3 of the bond estimate summary (2), indicates 61.5 acres will be graded. It is unclear how this number has been derived from the explanation given.	
93		page 6/6 15.1, the monitoring and weed control plan should be better defined and should describe specifically the tasks and actions associated with the plan. The cost for a second seeding of 100% or something reasonable. (BE)	
94		page 6/6 15.1, the costs associated with weed control should be included. (BE)	

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Comment #	Sheet/Page #	Comments From Initial Review	Review Action
95		page 6/6 15.1, there should be an administrative costs for reporting/recording. (BE)	
96		page 6/6 15.1, the cost of gas should be included. (BE)	
97		page 6/6 15.1, the number of trips/year should increase during post mining monitoring. (BE)	
98		page 5/6 12, general site clean up indicates 3 laborers will be involved, however the costs are for one laborer. Please correct. (BE)	
99	General	Plan needs a map that clearly defines perimeter of bonded area (lah)	
100	General	Plan needs a map that ties surety spreadsheet to physical locations (lah)	
101	General	Example surety spread sheet is available from DOGM (lah)	